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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,156	04/25/2001	Shunpei Yamazaki	12732-033001	4159

26171 7590 11/28/2007
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EXAMINER	
DOLAN, JENNIFER M	
ART UNIT	PAPER NUMBER
2813	
MAIL DATE	DELIVERY MODE
11/28/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/841,156	YAMAZAKI ET AL.	
	Examiner	Art Unit	
	Jennifer M. Dolan	2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9-12,14,19,23-45,47,48,50,51 and 53-90* is/are pending in the application.

4a) Of the above claim(s) *23-45* is/are withdrawn from consideration.

5)☒ Claim(s) *11,12,14,19,59-64 and 79-82* is/are allowed.

6)☒ Claim(s) *9,10,47,48,50,51,53-58,65-78 and 83-90* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 April 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/30/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 30 October 2007 has been entered.

Election/Restrictions

2. Claims 23-45 were withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was by original presentation, as set forth in the Office Action of 05 June 2003.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 9, 55, 71, and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,280,559 to Terada et al. in view of U.S. Patent No. 6,320,309 to Nomura et al.

Terada discloses forming a plurality of light emitting elements (34) at the front surface of a substrate (33; see figure 4), the substrate being formed of, *inter alia*, glass or polymeric material (figure 4; column 17, lines 5-10); polishing (column 26, lines 62-67) a back surface of the first substrate reduce the thickness to less than a pixel pitch (see column 21, lines 50-65; also see column 18, lines 53-65 and column 20, lines 9-24), the thickness also being less than 300 micrometers (see column 22, lines 38-45; column 26, lines 38-41); and bonding a color filter (35) adjacent the light-emitting element (see figure 4), the color filter made from a transparent substrate (37) with red (47) green (48) and blue (49) color filter elements including red, green, and blue colored layers, respectively (see column 18, lines 65-66) thereon at the surface of the first substrate opposite to the light emitting elements (see column 26, lines 45-61), wherein red light passes through the substrate and the red colored layer, green passes through the substrate and the green colored layer, and blue passes through the substrate and the blue colored layer (see figure 4; column 15, lines 50-65). Terada further indicates that the red, green, and blue layers include regions with a black pigment therein, to thereby function as a black matrix (column 16, lines 5-15; column 19, lines 5-11).

Terada fails to teach use of a distinct red light emitting element, a green light emitting element, and a blue light-emitting element.

Nomura teaches that a white light emitting element with red, green, and blue filters can be used interchangeably with distinct red, green, and blue light emitting elements having red, green, and blue filters, respectively (phosphor layers r, g, and b and color filters R, G, and B in figure 3; also see column 7, lines 1-9). Nomura further teaches that the red, green, and blue light emitting elements are formed by screen printing (column 5, lines 59-61).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Terada by using distinct red, green, and blue light emitting elements formed by screen printing, as suggested by Nomura. The rationale is as follows: a person skilled in the art would employ distinct red, green, and blue light emitting elements in place of the wide spectral band white emitting element, because Nomura teaches that both options are art recognized equivalents usable interchangeably in the art, and that both options are suitable for producing red, green, and blue pixels for full color light emitting displays (see Nomura, figure 3; column 7, lines 1-9). It has been held that the selection of a known material based on its suitability for its intended use supports a prima facie obviousness determination. See Sinclair & Carroll Co. v. Interchemical Corp., 325 U.S. 327, 65 USPQ 297 (1945). It is further expected that use of the light emitting elements taught by Nomura would entail the formation methods, such as screen printing, taught by Nomura, particularly since screen printing is a well-known means for depositing of phosphor materials.

5. Claims 10, 58, 75, and 78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terada et al. in view of Nomura et al. and further in view of U.S. Patent No. 6,392,340 to Yoneda et al.

Terada in view of Nomura discloses all of the claimed features, as explained in the rejection of claims 9 and 55, except forming a thin film transistor for an electroluminescent display.

Yoneda teaches that it is known in the art for light emitting elements to be electrically connected to a semiconductor element/thin film transistor, so that the TFTs can act as switching or control elements for the light emitting device (see Yoneda, column 1, lines 14-43).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to electrically connect a TFT to the light emitting element, as suggested by Yoneda. The rationale is as follows: a person having ordinary skill in the art would connect a TFT to the light emitting device, because use of TFTs to control the emission of the electroluminescent element for flat panel displays is notoriously old and common in the art, and provides the additional advantage of permitting selective driving of individually addressed pixels (also see Yoneda, column 1, lines 14-43).

6. Claims 47, 48, 50, 51, 67, 70, 83, 86, 87, and 90 are rejected under 35 U.S. C. 103(a) as being unpatentable over Terada in view Nomura, and further in view of U.S. patent No. 4,963,788 to King et al.

Regarding claims 47, 50, 67, 70, 83, 86, 87, and 90, the prior art of Terada in view of Nomura, as explained in the rejection of claims 9 and 55, supra, discloses each of the claimed features, except for bonding an anti-reflective film to the transparent substrate of the color filter.

King teaches a thin film electroluminescent display, wherein contrast is improved by providing a polarizer or antireflective coating on the viewer's side surface/emissive surface of the display (see King, column 1, lines 28-42 and column 5, lines 9-17).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the polarization plate or antireflective coating to the transparent color filter

substrate, as suggested by King, in the method of Terada in view of Nomura in order to improve the contrast of the display (see King, column 1, lines 28-42; column 5, lines 9-17).

Regarding claims 48, and 51, Terada teaches that an exemplary transparent substrate material for the color filter substrate is glass (see column 25, lines 22-24). Glass is inherently considered a polymeric material (see Stuart M. Lee article – "Lunar Building Materials – Some Considerations on the Use of Inorganic Polymers" (cited in the previous office actions) for a showing of inherency only).

7. Claims 47, 48, 50, 51, 83, 86, 87, and 90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terada in view of Nomura, and further in view of U.S. Patent No. 6,476,783 to Matthies.

Regarding claims 47, 50, 83, 86, 87, and 90, Terada in view of Nomura teaches all of the claimed features, as explained supra in the rejections of claims 9 and 55, except the step of bonding an antireflection film to the transparent substrate.

Matthies teaches that bonding an antireflective coating on the viewer's surface/emissive surface of an EL display will reduce specular reflectance (see Matthies, paragraph bridging columns 9 and 10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Terada in view of Nomura, such that an antireflective film is bonded to the transparent substrate of the color filter, as suggested by Matthies, in order to remove specular reflectance, and thereby improve the contrast of the EL device (see Matthies, paragraph bridging columns 9 and 10).

Regarding claims 48 and 51, Terada teaches that an exemplary transparent substrate material for the color filter substrate is glass (see column 25, lines 22-24). Glass is inherently considered a polymeric material (see Stuart M. Lee article – "Lunar Building Materials – Some Considerations on the Use of Inorganic Polymers" (cited in the previous office actions) for a showing of inherency only).

8. Claims 53 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terada in view of Nomura, as applied to claim 9, supra, and further in view of U.S. Patent No. 6,252,253 to Bao et al.

Terada, as modified by Nomura teaches all of the limitations in the claims, except that the red, green, or blue light emitting elements are formed by deposition using a shadow mask or by ink-jet deposition.

Bao teaches forming a red light emitting element using a shadow mask, ink jet method, or screen printing method. Bao expressly teaches that these methods are suitable and usable interchangeably for forming the light emitting element (column 8, lines 44-48).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Terada in view of Nomura, such that shadow mask deposition or ink jet deposition are used for forming the light emitting elements, as suggested by Bao. The rationale is as follows: one with ordinary skill in the art would employ shadow mask deposition or ink-jet deposition for the formation of the light emitting element, because Bao shows that both methods are usable interchangeably with the screen printing method used in Nomura, and that all three methods are recognized as suitable for forming the electroluminescent element (see Bao,

column 8, lines 44-48). It has been held that the selection of a known material based on its suitability for its intended use supports a prima facie obviousness determination. See Sinclair & Carroll Co. v. Interchemical Corp., 325 U.S. 327, 65 USPQ 297 (1945).

9. Claims 56 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terada in view of Nomura and Yoneda, as applied to claim 10, supra, and further in view of Bao et al.

Terada, as modified by Bando, Nomura, and Noguchi et al. teach all of the limitations in the claims, except that the red, green, or blue light emitting elements are formed by deposition using a shadow mask or by ink-jet deposition.

Bao teaches forming a red light emitting element using a shadow mask, ink jet method, or screen printing method. Bao expressly teaches that these methods are suitable and usable interchangeably for forming the light emitting element (column 8, lines 44-48).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Terada in view of Nomura and Yoneda, such that shadow mask deposition or ink jet deposition are used for forming the light emitting elements, as suggested by Bao. The rationale is as follows: one with ordinary skill in the art would employ shadow mask deposition or ink-jet deposition for the formation of the light emitting element, because Bao shows that both methods are usable interchangeably with the screen printing method used in Nomura, and that all three methods are recognized as suitable for forming the electroluminescent element (see Bao, column 8, lines 44-48). It has been held that the selection of a known material based on its suitability for its intended use supports a prima facie

obviousness determination. See Sinclair & Carroll Co. v. Interchemical Corp., 325 U.S. 327, 65 USPQ 297 (1945).

10. Claims 65, 66, 68, and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terada in view of Nomura and King et al. as applied to claims 47 and 50, supra, and further in view of Bao et al.

Terada, as modified by Nomura and King, teach all of the limitations in the claims, except that the red, green, or blue light emitting elements are formed by deposition using a shadow mask or by ink-jet deposition.

Bao teaches forming a red light emitting element using a shadow mask, ink jet method, or screen printing method. Bao expressly teaches that these methods are suitable and usable interchangeably for forming the light emitting element (column 8, lines 44-48).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Terada in view of Bando, Nomura, and Noguchi, such that shadow mask deposition or ink jet deposition are used for forming the light emitting elements, as suggested by Bao. The rationale is as follows: one with ordinary skill in the art would employ shadow mask deposition or ink-jet deposition for the formation of the light emitting element, because Bao shows that both methods are usable interchangeably with the screen printing method used in Nomura, and that all three methods are recognized as suitable for forming the electroluminescent element (see Bao, column 8, lines 44-48). It has been held that the selection of a known material based on its suitability for its intended use supports a prima facie

obviousness determination. See Sinclair & Carroll Co. v. Interchemical Corp., 325 U.S. 327, 65 USPQ 297 (1945).

11. Claim 72 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terada et al. in view of Nomura et al, as applied to claim 9, supra, and further in view of U.S. Patent No. 5,276,999 to Bando.

Terada teaches that chemical and mechanical means may be employed in thinning the substrate (see column 26, lines 62-67), but fails to specifically teach the use of chemical mechanical polishing.

Bando teaches that chemical mechanical polishing is used to grind light emitting display substrates, in order to achieve the flatness required for displays (see column 1, lines 6-12; column 5, lines 25-30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Terada as modified by Nomura, by using CMP as a grinding process, as suggested by Bando. The rationale is as follows: a person skilled in the art would employ CMP as a grinding method, because both CMP and mechanical grinding methods are notoriously old and well known in the art for substrate thinning and polishing, and in order to achieve the high degree of flatness desirable for the light emitting display as in Terada (see Bando, column 5, lines 25-30; column 1, lines 6-12).

12. Claim 73 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terada et al. in view of Nomura et al. as applied to claim 9 above, and further in view of U.S. Patent No. 5,040,875 to Noguchi et al.

Terada fails to teach that at least two of the colored filters overlap.

Noguchi teaches that it is desirable to have an overlap of red, green, and blue filters at the boundary of adjacent pixels, in order to form a black matrix, and thereby improve purity of each distinct color (see figures 6 and 9; column 2, lines 15-25 and lines 47-62; column 5, lines 45-55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Terada as modified by Nomura by using overlapping red, green, and blue filters, as suggested by Noguchi. The rationale is as follows: a person skilled in the art would desire to use color filters that overlap at the edges, because Noguchi indicates that the overlap of red, green, and blue color filters at the edge of the pixel emissive area effectively acts as a black matrix, thereby inhibiting color mixing of adjacent pixels and improving color purity (see Noguchi, figures 6 and 9; column 2, lines 15-25 and 47-62; column 5, lines 45-55). Since Terada employs a black matrix (50) between the color filter elements for identical purposes as that in Noguchi (see Terada, column 16, lines 5-15), a person skilled in the art would readily recognize that the overlapping color filters in Noguchi are an art-recognized suitable means for providing a black matrix, and at least would provide the desirable effect of improved color purity while not requiring disposal and patterning of a black matrix material. Note that it has been held that the selection of a known material based on its suitability for its intended use supports a prima facie obviousness determination. See Sinclair & Carroll Co. v. Interchemical Corp., 325 U.S. 327, 65 USPQ 297 (1945).

13. Claim 76 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terada et al. in view of Nomura et al and Yoneda et al., as applied to claim 10, supra, and further in view of Bando.

Terada teaches that chemical and mechanical means may be employed in thinning the substrate (see column 26, lines 62-67), but fails to specifically teach the use of chemical mechanical polishing.

Bando teaches that chemical mechanical polishing is used to grind light emitting display substrates, in order to achieve the flatness required for displays (see column 1, lines 6-12; column 5, lines 25-30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Terada as modified by Nomura and Yoneda, by using CMP as a grinding process, as suggested by Bando. The rationale is as follows: a person skilled in the art would employ CMP as a grinding method, because both CMP and mechanical grinding methods are notoriously old and well known in the art for substrate thinning and polishing, and in order to achieve the high degree of flatness desirable for the light emitting display as in Terada (see Bando, column 5, lines 25-30; column 1, lines 6-12).

14. Claim 77 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terada et al. in view of Nomura et al. and Yoneda et al., as applied to claim 10 above, and further in view of Noguchi et al.

Terada fails to teach that at least two of the colored filters overlap.

Noguchi teaches that it is desirable to have an overlap of red, green, and blue filters at the boundary of adjacent pixels, in order to form a black matrix, and thereby improve purity of each distinct color (see figures 6 and 9; column 2, lines 15-25 and lines 47-62; column 5, lines 45-55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Terada as modified by Nomura and Yoneda by using overlapping red, green, and blue filters, as suggested by Noguchi. The rationale is as follows: a person skilled in the art would desire to use color filters that overlap at the edges, because Noguchi indicates that the overlap of red, green, and blue color filters at the edge of the pixel emissive area effectively acts as a black matrix, thereby inhibiting color mixing of adjacent pixels and improving color purity (see Noguchi, figures 6 and 9; column 2, lines 15-25 and 47-62; column 5, lines 45-55). Since Terada employs a black matrix (50) between the color filter elements for identical purposes as that in Noguchi (see Terada, column 16, lines 5-15), a person skilled in the art would readily recognize that the overlapping color filters in Noguchi are an art-recognized suitable means for providing a black matrix, and at least would provide the desirable effect of improved color purity while not requiring disposal and patterning of a black matrix material. Note that it has been held that the selection of a known material based on its suitability for its intended use supports a prima facie obviousness determination. See Sinclair & Carroll Co. v. Interchemical Corp., 325 U.S. 327, 65 USPQ 297 (1945).

15. Claims 84 and 88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terada et al. in view of Nomura et al and King et al., as applied to claims 47 and 50, supra, and further in view of Bando.

Terada teaches that chemical and mechanical means may be employed in thinning the substrate (see column 26, lines 62-67), but fails to specifically teach the use of chemical mechanical polishing.

Bando teaches that chemical mechanical polishing is used to grind light emitting display substrates, in order to achieve the flatness required for displays (see column 1, lines 6-12; column 5, lines 25-30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Terada as modified by Nomura and King, by using CMP as a grinding process, as suggested by Bando. The rationale is as follows: a person skilled in the art would employ CMP as a grinding method, because both CMP and mechanical grinding methods are notoriously old and well known in the art for substrate thinning and polishing, and in order to achieve the high degree of flatness desirable for the light emitting display as in Terada (see Bando, column 5, lines 25-30; column 1, lines 6-12).

16. Claims 85 and 89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terada et al. in view of Nomura et al. as applied to claims 47 and 50 above, and further in view of Noguchi et al.

Terada fails to teach that at least two of the colored filters overlap.

Noguchi teaches that it is desirable to have an overlap of red, green, and blue filters at the boundary of adjacent pixels, in order to form a black matrix, and thereby improve purity of each distinct color (see figures 6 and 9; column 2, lines 15-25 and lines 47-62; column 5, lines 45-55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Terada as modified by Nomura and King by using overlapping red, green, and blue filters, as suggested by Noguchi. The rationale is as follows: a person skilled in the art would desire to use color filters that overlap at the edges, because Noguchi indicates that the overlap of red, green, and blue color filters at the edge of the pixel emissive area effectively acts as a black matrix, thereby inhibiting color mixing of adjacent pixels and improving color purity (see Noguchi, figures 6 and 9; column 2, lines 15-25 and 47-62; column 5, lines 45-55). Since Terada employs a black matrix (50) between the color filter elements for identical purposes as that in Noguchi (see Terada, column 16, lines 5-15), a person skilled in the art would readily recognize that the overlapping color filters in Noguchi are an art-recognized suitable means for providing a black matrix, and at least would provide the desirable effect of improved color purity while not requiring disposal and patterning of a black matrix material. Note that it has been held that the selection of a known material based on its suitability for its intended use supports a prima facie obviousness determination. See Sinclair & Carroll Co. v. Interchemical Corp., 325 U.S. 327, 65 USPQ 297 (1945).

Allowable Subject Matter

17. Claims 11, 12, 14, 19, 59-64, and 79-82 are allowed.

18. The following is a statement of reasons for the indication of allowable subject matter: The primary reason for allowance is the claimed process of separating the substrate from the

base film including the light emitting elements, and then bonding a transparent substrate including the colored layers to the base film, in addition to the other limitations in the claims.

Separation of a growth substrate from a light emitting structure, as well as the subsequent bonding of the light emitting structure to a new substrate, are processes well known in the art. The prior art, however, provides no suggestion of specifically separating the substrate from the light emitting structures to bond a color filter substrate in place of the original substrate, nor is there any indication of the desirable effects of the claimed process, such as minimizing the substrate thickness through which the light is emitted as well as permitting formation of completely flexible light emitting structures. Since the closest prior art, such as Terada, specifically teaches retention of some portion of the initial substrate thickness in the final structure, and since the prior art provides insufficient suggestion of removing an initial substrate and bonding a color filter substrate in its place, it is the Examiner's opinion that the claimed invention would not have been obvious to a person having ordinary skill in the art.

Response to Arguments

19. Applicant's arguments with respect to claims 9-12, 14, 19, 47, 48, 50, 51, and 53-90 have been considered but are moot in view of the new grounds of rejection.

The Examiner, however, respectfully points out that although the Applicant argues that Terada fails to teach polishing the substrate thickness to less than a pixel pitch, Terada does directly indicate that the substrate thickness is polished to 50-100 microns (see column 6, lines 23-52), which is considered much less than a pixel pitch. Terada further directly teaches that for an electrode pitch (which is equal to a pixel pitch) of about 300 microns (see column 21, lines

60-65), the width of the intervals between upper electrode is 90 microns (column 21, lines 63-65), and the reference thickness (i.e., thickness of polished substrate; see column 20, lines 55-60) is no more than 1.2 times the interval between electrodes, or 108 microns (see column 21, lines 50-55), which is much less than the pixel pitch. Also see the entirety of column 22 of Terada for a further analysis on the pixel pitch vs. substrate thickness dimensions.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer M. Dolan whose telephone number is (571) 272-1690. The examiner can normally be reached on Monday - Friday, 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl W. Whitehead, Jr. can be reached on (571)272-1702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Carl Whitehead
SPE Art Unit 2813

Jennifer M Dolan
Examiner
Art Unit 2813

JMD